

REMARKS

This Application has been carefully reviewed in light of the Final Office Action mailed March 22, 2006 (the "Office Action"). At the time of the Final Office Action, Claims 1-22 were pending in the Application. The Examiner rejected Claims 1-22. Applicants respectfully request reconsideration and favorable action in this case.

Section 102 Rejections

Claims 1-2, 5-7 and 22 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,369,758 issued to Zhang ("Zhang"). Applicants respectfully traverse these rejections for the reasons stated below.

In order to establish a *prima facie* case of anticipation, all the elements of the claimed invention must be found within a single prior art reference. *Dewey & Almy Chemical Co. v. Mimex*, 124 F.2d 986, 52 USPQ 138 (2d Cir. 1942). Applicants respectfully submit that each and every element of Claims 1-2, 5-7, and 22 is not found within the *Zhang* reference.

Claim 1 recites:

A method for using a pilot signal to enhance a data signal associated with the pilot signal, comprising:

receiving a plurality of data signals and a plurality of pilot signals on a plurality of antenna elements, each data signal from the plurality of data signals being uniquely associated with a pilot signal from the plurality of pilot signals, each pilot signal from the plurality of pilot signals having a first characteristic and a second characteristic;

identifying a first pilot signal from the plurality of pilot signals based on the first characteristic of the first pilot signal; and

adjusting a first weight value associated with each antenna element from the plurality of antenna elements so that the second characteristic of the first pilot signal is substantially optimized with respect to the second characteristic of the remaining pilot signals from the plurality of pilot signals.

Applicants submit that *Zhang* fails to teach, suggest, or disclose each and every one of these elements. For example, *Zhang* fails to teach, suggest, or disclose "receiving a plurality of data signals and a plurality of pilot signals on a plurality of antenna elements, each data signal from the plurality of data signals being uniquely associated with a pilot signal from the

plurality of pilot signals, each pilot signal from the plurality of pilot signals having a first characteristic and a second characteristic.” Instead, *Zhang* discloses that:

Transmissions in accordance with the present invention comprise successively transmitted frames. A preferred transmission frame format, indicated by numeral 38, is shown in FIG. 2. Each frame 38 includes a number of consecutively transmitted symbols, including a preamble that includes a null symbol 42 and one of two possible adaptive antenna array training symbols (TRS I or TRS II) 44. The preamble is followed by a predetermined number of OFDM symbols 40. Each OFDM symbol includes a plurality of modulated subcarriers. Preferably one of the OFDM subcarriers is a pilot carrier 46 modulated with constant modulus signals (such as QPSK) during the duration of the OFDM portion of frame 38.

Col. 4, ll. 29-41. The Examiner relies on *Zhang*’s disclosure of “power characteristics of the separated training signal information” (col. 3, ll. 1-18) and “power characteristics of the constant modulus pilot carrier” (col. 3, ll. 19-30) as the first and second characteristics of the pilot signal recited in Claim 1. *See* Office Action, p. 4. However, the power characteristics disclosed by *Zhang* are actually characteristics of two different signals (the training signal and the pilot carrier), not the same pilot signal. Moreover, the training signal cited by the Examiner is not a pilot signal as recited in Claim 1. In fact, *Zhang* clearly distinguishes between a training signal and a pilot signal. *See* col. 4, ll. 29-41. As such, the two cannot be equivalent. Examiner’s arguments to the contrary (Office Action, pp. 2-3) are plainly incorrect. Therefore, as *Zhang* fails to teach, suggest, or disclose “receiving . . . a plurality of pilot signals . . . each pilot signal from the plurality of pilot signals having a first characteristic and a second characteristic,” Applicants submit that the rejection of Claim 1 is clearly improper and respectfully request that the rejection be withdrawn.

Claims 2 and 5-7 depend from Claim 1. Therefore, Applicants submit that Claims 2 and 5-7 are allowable, for example, for reasons similar to those discussed above with regard to Claim 1. As such, Applicants respectfully request that the rejections of Claims 2 and 5-7 be withdrawn.

Claim 22 recites limitations similar to those in Claim 1. For example, Claim 22 recites “identifying a first pilot signal from the plurality of pilot signals based on a first characteristic of the first pilot signal” and “adjusting a plurality of weight values associated with the plurality of antenna elements so that a second characteristic of the first pilot signal is

substantially optimized.” Therefore, Applicants submit that Claim 22 is allowable, for example, for reasons similar to those discussed above with regard to Claim 1. As such, Applicants respectfully request that the rejection of Claim 22 be withdrawn.

Section 103 Rejections

Claims 3-4, 8-11 and 12-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 66,369,758 issued to Zhang (“*Zhang*”). Applicants respectfully traverse these rejections for the reasons stated below.

In order to establish a *prima facie* case of obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981 (CCPA 1974). Applicants respectfully submit that each and every element of 3-4, 8-11, and 12-21 is not found with the *Zhang* reference.

Claims 3, 4, and 8-11 depend from Claim 1. Therefore, Applicants submit that Claims 3, 4, and 8-11 are allowable, for example, for reasons similar to those discussed above with regard to Claim 1. As such, Applicant respectfully request that the rejections of Claims 3, 4, and 8-11 be withdrawn.

Claim 12 recites “a plurality of antenna elements configured to receive a plurality of data signals and a plurality of pilot signals, each data signal from the plurality of data signals being uniquely associated with a pilot signal from the plurality of pilot signals, each pilot signal from the plurality of pilot signals having a first characteristic and a second characteristic.” As discussed above with regard to Claim 1, *Zhang* fails to teach, suggest, or disclose this element. For at least this reason, the rejection of Claim 12 is improper. Therefore, Applicants respectfully request that the rejection of Claim 12 be withdrawn.

Claims 13-21 depend from Claim 12. Therefore, Applicants submit that Claims 13-21 are allowable, for example, for reasons similar to those discussed above with regard to Claim 12. As such, Applicant respectfully request that the rejections of Claims 13-21 be withdrawn.

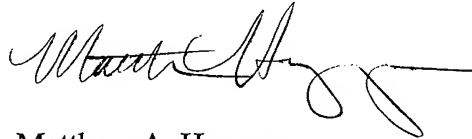
CONCLUSION

Applicants have made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other apparent reasons, Applicants respectfully request full allowance of all pending Claims. If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the undersigned attorney for Applicants stands ready to conduct such a conference at the convenience of the Examiner.

Applicants believe no fee is due. However, should there be a fee discrepancy, the Commissioner is hereby authorized to charge any required fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

BAKER BOTTS L.L.P.
Attorneys for Applicants



Matthew A. Hayenga
Reg. No. 54,156
Phone: (214) 953-6747

Date: April 17, 2006

CORRESPONDENCE ADDRESS:

Customer Number: **05073**
Attorney Docket No.: 074078.0107